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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/710,328	11/09/2000	Shigeru Mori	450100-02841	5072

20999 7590 06/26/2002

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EXAMINER
CHANG, AUDREY Y

ART UNIT	PAPER NUMBER
2872	

DATE MAILED: 06/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/710,328	Applicant(s) MORI ET AL.	
	Examiner Audrey Y. Chang	Art Unit 2872	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 April 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Remark

- This Office Action is in response to applicant's amendment filed on April 18, 2002, which has been entered as paper number 7.
- By this amendment, the applicant has canceled claims 1-13 and has newly added claims 14-27.
- Claims 14-27 remain pending in this application.
- The rejections to claims 1-13 under 35 USC 112, first and second paragraphs set forth in the previous Office Action are withdrawn in response to applicant's amendment.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 14, 16, 17, 18, 20-21, 23, and 25-27 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification fails to teach how could a hologram be simply formed by producing a synthetic image and generating a parallax image train from the synthetic image. Claims 16, 20, 22 and 24 inherit the rejection from their respective based claim. Synthesizing a synthetic image alone simply cannot form a hologram.

The specification also fails to how could a ***three-dimensional image*** be generated by a means, as claimed in claim 27. It is known in the art that there is no such thing as a three dimensional image. Three

dimensional *illusion* could be achieved by using special optics when viewing a pair of *two dimensional image* bearing parallax information however there is no such thing as a three dimensional image existed by itself.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 14-16, 17, 18-20, 21-22, 23-24, 25, 26 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "a three-dimensional image model" recited in claims 14, 17, 21, and 25 and the phrase "three-dimensional model" recited in claims 18, 23 and 26 are indefinite since it is not clear what does it mean by these phrases. It is not clear if this "three-dimensional image model" comprises a stereo *image pair* for a three-dimensional object or not. It is completely not clear what does it mean by "three-dimensional model". Claims 15-16, 19-20, 22, and 24 inherit the rejection from their respective based claims.

Claims 15, 19, 22, and 24 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the means for pasting the images, the means for producing parallax image train and the means for sequentially recording the hologram element with an object bean and a reference beam. To be more specific, the claims fail to provide the relationship between the recording beams and the parallax image train.

The phrase "generated image" recited in various claims and the phrase "captured image" recited in various claims are confusing and indefinite since the claims fail to provide the means for either "generating the image" and/or the means for "capturing the image".

The phrase "by rendering ... image" recited in various claims is indefinite and confusing since it is not clear what function is considered here as "render" an image. The claims also fail to provide means for carrying out this "rendering" which makes the scopes of claims unclear.

The phrase "separate image" recited in various claims is confusing and indefinite since it is not clear what does it mean by "separate". Does it mean separate physically in space or in what ?

The phrase "the omitted portions of the three-dimensional image" recited in claim 27 is indefinite and confusing since it is not clear what is considered to be "omitted portions". It is not clear how could an image having an omitted portions ? How are these omitted portions achieved ?

The claims as stand now contain **numerous confusions and indefiniteness**. The examiner can only point out a few. **It is applicant's responsibility to clear our ALL of the discrepancies and to make the claims in comply with the requirements of 35 USC 112, first and second paragraphs.**

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this

application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 14, 16, 17, 18, 20, 21, 23 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by the patent issued to Tabata (PN. 6,111,597).

Tabata teaches a *stereo image forming apparatus* that is comprised of a *stereo image forming device* (1 or 4) having a micro-computer and a program recording medium for *pasting* or *inserting* a previously produced *background image data* (b, of Figures 36 or 38), serves as the separate image, to a stereo image model (or pair) having left eye perspective image and right eye perspective image (a, of Figures 36 or 38) to produce or *synthesize* a train of parallax images (c, of Figures 36 and 38), (please see Figures 1, 2, 36 and 38, columns 4, 9, 10, 27 and 28).. This reference has anticipated the claims with the exception that it does not teach explicitly that the stereo image forming apparatus is comprised in a hologram forming apparatus. However this recitation of intended used in the preamble has not been given patentable weight because it has been held that a preamble is denied the effect of limitations where the claim is drawn to a structure and the portion of the claim following the preamble is a *self-contained description* of the structure *not depending* for the completeness upon the introductory clause. Kropa y. Robie, 88 USPQ 478 (CCPA 1951). With regard to claim 17, Tabata does not teach explicitly that the background image data is a captured image however since the claims and specification do not define the meaning of "capturing" or provide any means to carry out the capturing such feature is therefore met by the disclosure of Tabata with the broadest interpretation for it is well understood to one skilled in the art that all the images are "captured image" of some sort. With regard to claim 27, the position of the background image being inserted into the stereo image pair is considered to be the "omitted portions".

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 15, 19, 22, 24, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Tabata in view of the patent issued to Benton (PN. 4,834,476).

The stereo image forming apparatus taught by Tabata as described for claims 14, 18, 21 and 23 above has met all the limitations of the claims. This reference however does not teach explicitly to use the parallax image train formed by the stereo image forming apparatus to record hologram elements. However using parallax images to sequentially record hologram elements to form holographic stereograms is quite well known in the art as demonstrated by the teachings of Benton. Benton teaches that a series of images having different perspective views are being projected to the recording medium (44) sequentially as the object beam, (please see Figures 1 and 9). The object beam is then interfered with a reference beam to record a hologram element sequentially at the recording medium. The holographic stereogram consists of the plurality of hologram elements. It would then have been obvious to one skilled in the art to combine the teachings of Tabata and Benton to use the stereo image forming apparatus of Tabata to form the series or train of the parallax images having different perspective views of an object with added background image as the object information to modulate the object beam to record a stereogram for the benefit of providing a more accurate way of creating the stereo images therefore providing an improvement to the quality of the recorded holographic stereograms.

Response to Arguments

5. Applicant's arguments filed on April 18, 2002 have been fully considered but they are not persuasive.

6. The newly submitted claims 14-27 have been fully considered and they are rejected for the reasons stated above.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on 703-308-1637. The fax phone numbers for the organization where

this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Audrey Y. Chang
Primary Examiner
Art Unit 2872

A. Chang, Ph.D.
June 25, 2002